

# BS in Industrial Engineering

Program Codes:  
20FQ0127BS

## Degree Requirements

To earn a Bachelor of Science in Industrial Engineering degree from UIC, students need to complete university, college, and department degree requirements. The Department of Mechanical and Industrial Engineering degree requirements are outlined below. Students should consult the *College of Engineering* section for additional degree requirements and college academic policies.

Code	Title	Hours
<b>Summary of Requirements</b>		
Nonengineering and General Education Requirements		56
Required in the College of Engineering		63
Technical Electives		6
Electives outside the Major Rubric		3
Total Hours		128

## Nonengineering and General Education Requirements

Code	Title	Hours
<b>Required Courses</b>		
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
Exploring World Cultures course <sup>a</sup>		3
Understanding the Creative Arts course <sup>a</sup>		3
Understanding the Past course <sup>a</sup>		3
Understanding the Individual and Society course <sup>a</sup>		3
Understanding U.S. Society course <sup>a</sup>		3
MATH 180	Calculus I <sup>b</sup>	4
MATH 181	Calculus II <sup>b</sup>	4
MATH 210	Calculus III <sup>b</sup>	3
MATH 220	Introduction to Differential Equations	3
MATH 310	Applied Linear Algebra	3
CHEM 122	General Chemistry I Lecture <sup>c</sup>	4
CHEM 123	General Chemistry Laboratory I <sup>b,c</sup>	1
PHYS 141	General Physics I (Mechanics) <sup>b</sup>	4
PHYS 142	General Physics II (Electricity and Magnetism) <sup>b</sup>	4
MGMT 340	Introduction to Organizations	3
STAT 362	Elements of Statistical Computing	2
Total Hours		56

<sup>a</sup> Students should consult the General Education (<http://catalog.uic.edu/ucat/degree-programs/general-education>) section of the catalog for a list of approved courses in this category.

- <sup>b</sup> This course is approved for the Analyzing the Natural World General Education category.
- <sup>c</sup> General Education credit is given for successful completion of both CHEM 122 and CHEM 123.

## Required in the College of Engineering

Code	Title	Hours
<b>Required Courses</b>		
ENGR 100	Engineering Orientation <sup>a</sup>	1
CME 201	Statics	3
CME 203	Strength of Materials	3
CS 109	C/C ++ Programming for Engineers with MatLab	3
ECE 210	Electrical Circuit Analysis	3
IE 201	Financial Engineering	3
IE 342	Probability and Statistics for Engineers	3
IE 345	Regression Applications and Forecasting in Engineering	3
IE 365	Work Productivity Analysis	4
IE 380	Manufacturing Process Principles	3
IE 396	Senior Design I	3
IE 397	Senior Design II	2
IE 442	Design and Analysis of Experiments in Engineering	3
IE 446	Quality Control and Reliability	3
IE 461	Safety Engineering	3
IE 463	Plant Layout and Materials Handling	3
IE 466	Production Planning and Inventory Control	3
IE 467	Discrete Event Computer Simulation Application	3
IE 471	Operations Research I	3
IE 472	Operations Research II	3
IE 473	Stochastic Processes and Queuing Models	3
ME 250	Introduction to Engineering Design and Graphics	3
IE 499	Professional Development Seminar	0
Total Hours		63

<sup>a</sup> ENGR 100 is a one-semester-hour course, but the hour does not count toward the total hours required for graduation.

## Technical Electives

Code	Title	Hours
<b>Courses</b>		
Select two of the following:		6
IE 392	Undergraduate Research	
ME 205	Introduction to Thermodynamics	
ME 210	Engineering Dynamics	
ME 347	Introduction to Computer-Aided Design	
Any IE course at the 400-level not required above		
Total Hours		6

**Electives Outside the Major Rubric**

Code	Title	Hours
<b>Electives</b>		
Electives outside the IE Rubric		3
Total Hours		3

**Sample Course Schedule**

Course	Title	Hours
<b>Freshman Year</b>		
<b>First Semester</b>		
MATH 180	Calculus I	4
CHEM 122	General Chemistry I Lecture	4
CHEM 123	General Chemistry Laboratory I	1
ENGL 160	Academic Writing I: Writing in Academic and Public Contexts	3
General Education Core course		3
ENGR 100	Engineering Orientation <sup>a</sup>	1
Hours		15
<b>Second Semester</b>		
MATH 181	Calculus II	4
PHYS 141	General Physics I (Mechanics)	4
ENGL 161	Academic Writing II: Writing for Inquiry and Research	3
ME 250	Introduction to Engineering Design and Graphics	3
CS 109	C/C ++ Programming for Engineers with MatLab	3
Hours		17
<b>Sophomore Year</b>		
<b>First Semester</b>		
MATH 210	Calculus III	3
PHYS 142	General Physics II (Electricity and Magnetism)	4
IE 201	Financial Engineering	3
CME 201	Statics	3
General Education Core course		3
Hours		16
<b>Second Semester</b>		
MATH 220	Introduction to Differential Equations	3
MATH 310	Applied Linear Algebra	3
CME 203	Strength of Materials	3
IE 342	Probability and Statistics for Engineers	3
General Education Core course		3
Hours		15
<b>Junior Year</b>		
<b>First Semester</b>		
IE 471	Operations Research I	3
IE 345	Regression Applications and Forecasting in Engineering	3
IE 365	Work Productivity Analysis	4
ECE 210	Electrical Circuit Analysis	3

STAT 362	Elements of Statistical Computing	2
General Education Core course		3
Hours		18

**Second Semester**

IE 442	Design and Analysis of Experiments in Engineering	3
IE 472	Operations Research II	3
IE 446	Quality Control and Reliability	3
MGMT 340	Introduction to Organizations	3
General Education Core course		3
Hours		15

**Senior Year****First Semester**

IE 461	Safety Engineering	3
IE 380	Manufacturing Process Principles	3
IE 396	Senior Design I	3
IE 467	Discrete Event Computer Simulation Application	3
IE 473	Stochastic Processes and Queuing Models	3
Technical Elective		3
Hours		18

**Second Semester**

IE 397	Senior Design II	2
IE 463	Plant Layout and Materials Handling	3
IE 466	Production Planning and Inventory Control	3
IE 499	Professional Development Seminar	0
Technical Elective		3
Elective outside Major Rubric		3
Hours		14
Total Hours		128

<sup>a</sup> *ENGR 100 is one-semester-hour course, but the hour does not count toward the total hours required for graduation.*